

II. Rejection of Claim 1, 3-7, 9-14, 17 and 19 under 35 U.S.C. §102(b):

Claims 1, 3-7, 9-14, 17 and 19 were rejected under 35 U.S.C. §102(b) as being anticipated by *Jacyno et al.*, U.S. Patent No. 4,118,865.

In response to this rejection, Applicant has amended claims 1 and 9 to further clarify the position and placement of the collar and flange with respect to the trimmer line. The collar and flange present in the trimmer line of Applicant are concentric. The flange has an outer diameter greater than the outer diameter of the collar. It is the concentric nature of the collar and flange that enables the placement of the trimmer line so that it may function for its intended purpose. The flange remains flush with an aperture in the trimming device. The portion of the collar extending from the flange to the distal end of the trimmer line serves the purpose of reducing pressure on the filament during operation, thereby reducing the likelihood of the trimmer line breaking during operation. The length of the collar that extends from the distal end of the filament to the flange enables the collar to function as a hinge to the filament and prevents breakage of the filament during operation. The filament of *Jacyno et al.* does not disclose a collar and flange that are concentric. It is the specific arrangement of the collar with respect to the flange, and the placement of the collar and flange on the monofilament that is novel. Neither *Jacyno et al.* nor any of the prior art of record discloses this novel arrangement of the collar with respect to the flange and the novel placement of the collar and flange on the monofilament. Accordingly, Applicant's invention as outlined in the pending claims is patentably distinguishable from the trimmer line of *Jacyno et al.* as well as the trimmer lines disclosed in all of the prior art of record.

III. Rejection of Claims 2, 8 and 15 under 35 U.S.C. §103(a):

In the Office Action of September 25, 2002, the Examiner rejected the claims 2, 8 and 15 under 35 U.S.C. §103(a) as being unpatentable over *Jacyno et al.* ('865) in view of *Legrand*. *Jacyno et al.* discloses a trimmer line for use in a gas trimming and lawn edging device. The trimmer line includes a collar mounted on the trimmer line near the distal end of the line. The

collar of *Jucyno et al.* has an eyelet connector mounted at the distal end of the trimmer line. The *Legrand* patent discloses a trimmer line with a covering to provide a smooth exterior surface. Accordingly, both the *Jucyno et al.* and *Legrand* references relate to trimmer lines, but solve different problems associated with such lines.

Applicant hereby incorporates by reference each and every element of the disclosure and remarks pertaining to the *Jucyno et al.* patent as discussed above.

The *Legrand* patent ('914) discloses a trimmer line for cutting vegetation. The trimmer line includes a core element and a covering for the core element. The covering is intended to provide a smooth exterior surface to the line. *Legrand* does discuss the intended purpose of the modifications disclosed to improve mechanical properties of the trimmer line. However, *Legrand* does not disclose the elements of the trimmer line of Applicant, as stated in amended claims 1 and 19.

For it to be obvious to combine prior art references, the references must teach, suggest, or motivate one with ordinary skill in the art to combine the references and create the claimed invention. "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art." MPEP §2143.01. The *Legrand* reference does not disclose a collar having a concentric flange mounted on a trimmer line, but instead teaches a trimmer line with an exterior coating. *Jucyno et al.* discusses a trimmer line with an eyelet extending distal of the line to secure the line with a hub, but also fails to disclose both the concentrically mounted collar and flange, and the novel placement of the collar and flange with respect to the monofilament. None of the references disclose information regarding securing a collar and a concentric flange or an equivalent apparatus to a trimmer line in order to reduce the stress and strain on the monofilament. Accordingly, none of the prior art reference utilized by the Examiner teaches, suggests, or motivates one of ordinary skill in the art into

creating a concentric collar and flange, and crimping the collar to the distal end of the trimmer line to enhance the mechanical properties of the trimmer line as claimed by Applicant.

Furthermore, the prior art must teach the desirability of the modification suggested by the Examiner. "The mere fact the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." *In re Gordon et al.*, 733 F.2d 900, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). *Jacyno et al.* discloses a trimmer line with a mechanical element secured to the distal end, wherein the mechanical element includes an eyelet distal of the trimmer line to secure the line to a hub of a trimming apparatus. *Legrand* discusses modifying a trimmer line to enhance its mechanical properties, by placing a coating over the external surface of the line to achieve this result. Neither *Jacyno et al.* nor *Legrand* discloses a concentric collar and flange and the positioning of the concentric collar and flange with respect to the line. Accordingly, none of the prior art references suggests the desirability of the modifications represented by Applicant's claimed invention.

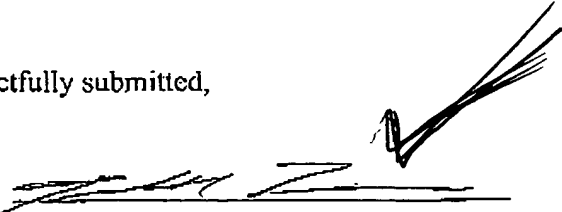
IV. Version of Claims and Specification With Markups:

Finally, attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made." No new subject matter has been added to the amended claims. In view of the forgoing amendments and remarks, it is submitted that all of the claims remaining in the application are now in condition for allowance and such action is respectfully requested. Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that she be contacted at the number indicated below.

For the reasons outlined above, withdrawal of the rejection of record and an allowance of this application are respectfully requested.

Respectfully submitted,

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Version with Markings To Show Changes Made

In the Specification:

The paragraph beginning at page 1, line 7, has been amended as follows:

Standard trimmer line for a ~~grass~~ grass trimmer is wound around a spool within a trimmer head housing, such as illustrated in U.S. Patent 5,623,765. The line is dispensed from the housing through one or more holes in the housing. A length of line extends from the housing and is spun by the trimmer at a high speed to cut grass or other vegetation. As the vegetation is trimmed, the line wears and shortens. Additional line is dispensed from the housing to restore the exposed line to the desired length for trimming. The mechanism for dispensing includes a spool within the housing which must rotate to unwind additional line and must then lock in place to permit trimming. Because of the requirements of high speed rotation, spooling and dispensing, trimmers often have complicated head mechanisms. Accordingly, it is inconvenient and difficult to replace a coil of line on a trimmer head mechanism.

The paragraph beginning at page 5, line 3, has been amended as follows:

In a preferred embodiment, the trimmer line 40 as illustrated in Fig. 6 has a collar 42 with a flange 44. The collar 42 is secured to a distal end 46 of the line 40, such that the distal end 46 of the line is flush with a distal end of the collar 48 42. However, the flange 44 is located at a proximal end of the collar. The collar is secured to the trimmer line through a crimp, which forms an indentation 50 into the trimmer line. The crimp is located approximately 1/3 the distance from the distal end of the collar and the trimmer line. The combination of the placement of the crimp in conjunction with the location of the flange with respect to the collar reduces the stress and strain on the trimmer line, thereby preventing premature breakage, or any

breakage of the trimmer line. In addition, the stopper is preferably comprised of a metallic material such as a brass, but may be comprised of alternative materials providing an equivalent desired affect for holding the distal end of the monofilament within an interior section of the housing. Accordingly, the flange 44 of the collar 42 is designed to hold a finite length of trimmer line in place with respect to the housing and to enhance the longevity of the trimmer line.

In the Claims:

Claim 1 has been amended as follows:

1.(Amended) A trimmer line comprising:

an elongate monofilament having a proximal end and a distal end;

a collar secured to said distal end of said monofilament, wherein said collar has a hollow interior section adapted to receive said monofilament;

said collar comprises a proximal end and a distal end;

said distal end of said collar is flush with said distal end of said monofilament and said proximal end of said collar is adapted to extend toward said proximal end of said monofilament ;

said proximal end of said collar comprises a flange adjacent to said proximal end thereof; ~~said flange includes an external diameter greater than an external diameter of said collar;~~
~~wherein said flange is adapted to place said monofilament adjacent to an aperture in a trimming apparatus; and~~

said flange and said collar are concentric;

said flange includes an external diameter greater than an external diameter of said collar;

said flange is adapted to place said monofilament adjacent to an aperture in a trimming apparatus; and

~~said distal end of said collar extends from said distal end is adapted to encircle a portion of said monofilament extending from to said flange, wherein said collar includes an external diameter lesser than the external diameter of said flange to said distal end of said collar.~~

Claim 3 has been amended as follows:

3. (Amended) The trimmer line of claim 1, wherein said collar comprises a hollow circular cross-section adapted to extend from the proximal end to the distal end said distal end of said monofilament to said flange.

Claim 7 has been canceled.

Claim 9 has been amended as follows:

9. (Amended) A trimmer line for a trimmer comprising:

said trimmer comprising a cutting head having a housing with a first end adapted to be mounted to a drive shaft, and a second end having an elongated annular flange and an aperture in said flange extending from an interior wall to an exterior wall;

said trimmer line comprising a finite monofilament length comprising a proximal end and a distal end;

a collar mounted to said distal end of said monofilament;

said collar comprising a proximal end and a distal end, said distal end of said collar is adapted to be flush with said distal end of said monofilament, and said proximal end of said collar comprising a flange ~~having an external diameter greater than said collar and greater than said aperture of said flange;~~ and

said flange and said collar are concentric;

said flange includes an external diameter greater than an external diameter of said collar;

and

said flange of said collar comprising a distal end and a proximal end, wherein said proximal end of said flange is adapted to be placed in communication with said interior wall of said aperture of said cutting head flange.

Claim 14 has been canceled.

Claim 16 has been canceled.

Claim 18 has been canceled.

Claim 19 has been amended as follows:

19. (Amended) A trimmer line for a line trimmer cutting head comprising:

said cutting head comprises a housing with a first end adapted to be mounted to a drive shaft of a line trimmer apparatus and a second end with an elongated open annular flange;

said annular flange comprises a wall with an interior side and an exterior side, and said wall includes an aperture therein adapted to extend from said interior side to said exterior side of said wall;

said trimmer line comprising a first end adapted to be inserted through said aperture from said interior side to said exterior side of said wall;

said trimmer line comprising a second end with a collar adapted to extend from said second end to said interior side of said wall; and

said collar comprises a proximal end with a flange having an external diameter greater than a diameter of said aperture, and said flange and said collar are concentric, wherein said flange is adapted to rest against said interior side of said wall.